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different institutions and to arrange for the carrying-out of investigations of general utility. It was decided that a conference, similar to that of Munich, should be held in Paris in September, 1896. The Cloud Committee, consisting of Messrs. Hann, Hildebrandsson, Mohn, Riggensbach, Rotch and Teisserenc de Bort reported upon the proposed cloud atlas, its cloud definitions and the instructions for observing them. It was recommended that measurements of the altitude of clouds (preferably by photographic methods) at a limited number of stations, and direct observation of the velocity of motion of clouds at a larger number of stations throughout the world, be commenced May 1, 1896, and continued one year.

A. LAWRENCE ROTCH.

THE AMERICAN CHEMICAL SOCIETY.

THE American Chemical Society held its eleventh general meeting at Springfield, Mass., August 27th and 28th. The address of welcome was delivered by Mayor Charles L. Long, and the response to the same was made by the President of the Society, Professor Edgar F. Smith. No business was transacted, the entire time of the three sessions being wholly devoted to the reading of the following papers and to their discussion :

1. 'Determination of the Heating Effect of Coal,' W. A. Noyes, J. R. McTaggart and H. W. Craven.
2. 'Use of Aluminum for Condensers,' T. H. Norton.
3. 'A Case of Mistaken Identity' (relating to the tetrachloride of zirconium), F. P. Venable.
4. 'The Determination of Sulphur in Refined Copper,' George L. Heath.
5. 'The Possibility of the Occurrence of Hydrogen and Methane in the Atmosphere,' Francis C. Phillips.
6. 'The Evolution Method for the Determination of Sulphur in Iron,' Francis C. Phillips.
7. 'Metaphosphinic Acids and their Derivatives,' Henry N. Stokes.
8. 'The Analysis of Alloys Containing Tin, Lead and Antimony,' Launcelot Andrews.
9. 'Observations on Double Platinum Salts,' Charles N. Herty.

10. 'A New Electrical Process in Making White-lead,' R. P. Williams.
11. 'Estimation of the Extraction in Sugar Houses' (by title), M. Trubeck.
12. 'Tellurium, its Separation from Copper Residues with Notes on some New Reactions,' Cabell Whitehead.
13. 'Arsenic in Glycerol,' George E. Barton.
14. 'The Occurrence of Trimethylene Glycoll as a Bi-Product in the Glycerine Manufacture,' Arthur A. Noyes.
15. 'The Electrolytic Reduction of Para-nitro Compounds in Sulphuric Acid Solution,' Arthur A. Noyes.
16. 'Speed of Oxidation by Chloric Acid,' Robert B. Warder and Herman Schlundt.
17. 'Acidimetric Estimation of Vegetable Alkaloids,' Lyman F. Kebler.
18. 'A Study of Some of the Gas-producing Bacteria' (by title), A. A. Bennett.
19. 'Pirates' (by title), George B. Pfeiffer.
20. 'A New Burette Holder,' W. K. Robbins.
21. 'A New Form of Water Bath,' W. P. Mason.
22. 'The Reaction Between Concentrated Sulphuric Acid and Copper,' Charles Baskerville.

After all the papers had been read President Edward Morley, of the American Association, who was present, was called upon for remarks, and he summed up the results that have been secured by the various workers who have labored to determine with accuracy the atomic weight of oxygen, giving as the final probable average of the results 15.879. These remarks were of especial interest, as Prof. Morley himself has done more than any other investigator to determine the atomic weight of oxygen, spending years upon the subject and making a number of elaborate and careful determinations. President Smith, of the Society, then gave a warm tribute to the work done by Prof. Morley and congratulated the chemists of this country on having among their number one whose work ranks with the highest done by any investigator in the world.

The Society visited the works of the Holyoke Paper Company, of the Merrick Thread Company, the plant of the Farr Alpaca Company, the Hampton Paint and Chemical Company and the U. S. Arsenal.

The present membership of the Society is 950. Eight active sections now exist in various parts of the United States, with

the possibility of two more before the year closes.

The mid-winter meeting will be held at Cleveland, Ohio.

SCIENTIFIC NOTES AND NEWS.

RAILWAY SPEED IN GREAT BRITAIN.

MR. CHARLES ROUS-MARTIN, an English authority on railway working, published a paper in the London *Engineer* of August 9th, in which he discusses what has come to be called 'the railway race to Aberdeen,' between the East and the West Coast routes. It began July 1st by the reductions of the schedule time from 11 h. 35 m. and 11 h. 50 m. to 11 h. 40 m. by the West Coast line. East Coast, then, came to 11 h. 20 m.; then West Coast to 11 hours. Next East Coast made the 523 miles in 10 h. 45 m., July 22 and, the same day, West Coast 543 miles in 10 h. 45 m. The last figures to date were 10 h. 25 m. and 10 h. 20 m. The running speed ranges between 60 and 75 miles an hour, which figures have been repeatedly bettered, previously, for short distances, by local trains. The higher the speed, the steadier was the motion of the train. The present writer came up from Perth to Edinboro' on such trains and can report extraordinarily easy and smooth motion of engine and carriages at speeds estimated to be much above seventy miles for considerable distances. It is concluded that the American system of 'bogie' or 'truck' is much better than the old English six-wheeled rigid type of carriage. The East Coast line employed single drivers 7 ft. 7 in. to 8 ft. 1 in. diameter and the West Coast two pairs coupled of 6 ft. 6 in. diameter. Speeds of 80 miles were sometimes touched; but rarely were the velocities considered extraordinary. The engines were in some cases simple, sometimes compound. All did magnificent work. The loads were 180 to 200 tons. R. H. T.

ROYAL SOCIETY OF NEW SOUTH WALES.

THE Society offers its Medal and £25 for the best communication (provided it be of sufficient merit) containing the results of original research or observation upon each of the following subjects:

Series XV.—To be sent in not later than 1st May, 1896. On the origin of Multiple Hydatids in man. On the Occurrence of Precious Stones in New South Wales with a description of the Deposits in which they are found. On the effect of the Australian Climate on the Physical Development of the Australian-born Population.

Series XVI.—To be sent in not later than 1st May, 1897. On the Embryology and Development of the Echidna or Platypus. The Chemical Composition of the Products from the so-called Kerosene Shale of New South Wales. On the Mode of Occurrence, Chemical Composition, and Origin of Artesian Water in New South Wales.

The competition is in no way confined to members of the Society, nor to residents in Australia, but is open to all without any restrictions whatever, excepting to members of Council for the time being. The communication to be successful must be either wholly or in part the result of origin observation or research on the part of the contributor. The Society is fully sensible that the money value of the Prize will not repay an investigator for the expenditure of his time and labor, but it is hoped that the honour will be regarded as a sufficient inducement and reward. The successful papers will be published in the Society's Annual Volume. Fifty reprint copies will be furnished to the author free of expense. Competitors are requested to write upon foolscap paper—on one side only. A motto must be used instead of the writer's name, and each paper must be accompanied by a sealed envelope bearing the motto outside, and containing the writer's name and address inside.